

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Previously presented) An idle speed control system for a vehicle including an internal combustion engine coupled to an automatic transmission which has a torque converter, the idle speed control system comprising:

a sensor operative to detect a parameter based on a torque converter speed ratio and generate a signal indicative of the parameter detected; and

a controller programmed to:

determine basic idle speed; and

determine a target idle speed by correcting the basic idle speed based on the signal such that the target idle speed increases as the parameter based on the torque converter speed ratio increases when the automatic transmission is in a drive range in engine idling condition.

2. (Original) The idle speed control system as claimed in claim 1, wherein the controller is programmed to determine a correction value so as to increase the target idle speed as the torque converter speed ratio changes from zero toward one.

3. (Original) The idle speed control system as claimed in claim 1, wherein the parameter is a vehicle speed.

4. (Original) The idle speed control system as claimed in claim 1, wherein the parameter is the torque converter speed ratio.

5. (Original) The idle speed control system as claimed in claim 3, wherein the controller is programmed to determine a correction value so as to increase the target idle speed as the vehicle speed increases.

6. (Original) The idle speed control system as claimed in claim 1, wherein the controller is programmed to determine a plurality of correction values for correcting the basic idle speed which correspond to different values of the basic idle speed.
7. (Original) The idle speed control system as claimed in claim 6, wherein the controller is programmed to store a plurality of tables corresponding to the different values of the basic idle speed, the tables indicating the correction values, respectively.
8. (Original) The idle speed control system as claimed in claim 6, wherein the controller is programmed to:
 - store a table corresponding to a reference speed and indicating the correction value;
 - correct the parameter based on the basic idle speed; and
 - retrieve the correction value from the table on the basis of the corrected parameter.
9. (Original) The idle speed control system as claimed in claim 8, wherein the controller is programmed to correct the parameter by multiplying the parameter by a ratio between the reference speed and the basic idle speed.
10. (Original) The idle speed control system as claimed in claim 6, wherein the controller is programmed to:
 - store a table corresponding to a reference speed and indicating the correction value;
 - retrieve the correction value from the table; and
 - correct the retrieved correction value based on the basic idle speed.
11. (Original) The idle speed control system as claimed in claim 10, wherein the controller is programmed to correct the retrieved correction value by multiplying the retrieved correction value by a ratio of a difference between a drive range basic air flow amount at the basic idle speed and a neutral range basic air flow amount at the basic idle speed, to a difference between a drive range basic air flow amount at the reference speed and a neutral range basic air flow amount at the reference speed.

12. (Previously presented) A method for controlling an engine idle speed in an internal combustion engine of a vehicle, the internal combustion engine being coupled to an automatic transmission having a torque converter, the method comprising:

determining basic idle speed when the automatic transmission is in a drive range in engine idling condition;

detecting a parameter based on a torque converter speed ratio; and

determining a target idle speed by correcting the basic idle speed based on the parameter based on a torque converter speed ratio such that the target idle speed increases as the parameter based on the torque converter speed ratio increases.

13. (Original) The method as claimed in claim 12, wherein the correcting operation comprises determining a correction value so as to increase the target idle speed as the torque converter speed ratio changes from zero toward one.

14. (Original) The method as claimed in claim 12, wherein the parameter is a vehicle speed.

15. (Original) The method as claimed in claim 12, wherein the parameter is the torque converter speed ratio.

16. (Original) The method as claimed in claim 14, wherein the correcting operation comprises determining a correction value so as to increase the target idle speed as the vehicle speed increases.

17. (Original) The method as claimed in claim 12, wherein the correcting operation comprises determining a plurality of correction values for correcting the basic idle speed which correspond to different values of the basic idle speed.

18. (Original) The method as claimed in claim 17, further comprising providing a plurality of tables which corresponds to the different values of the basic idle speed and indicates the correction values, respectively.

19. (Original) The method as claimed in claim 17, further comprising providing a table which corresponds to a reference speed and indicates the correction value, correcting the

parameter based on the basic idle speed, and retrieving the correction value from the table on the basis of the corrected parameter.

20. (Original) The method as claimed in claim 19, wherein the correcting operation comprises correcting the parameter by multiplying the parameter by a ratio between the reference speed and the basic idle speed.

21. (Previously presented) The method as claimed in claim 17, further comprising providing a table which corresponds to a reference speed and indicates the correction value, wherein the correction value is retrieved from the table and the retrieved correction value is corrected based on the basic idle speed.

22. (Original) The method as claimed in claim 21, wherein the correcting operation comprises correcting the retrieved correction value by multiplying the retrieved correction value by a ratio of a difference between a drive range basic air flow amount at the idle speed and a neutral range basic air flow amount at the idle speed, to a difference between a drive range basic air flow amount at the reference speed and a neutral range basic air flow amount at the reference speed.

23. (New) An idle speed control system for a vehicle including an internal combustion engine coupled to an automatic transmission which has a torque converter, the idle speed control system comprising:

a sensor operative to detect a parameter based on a torque converter speed ratio and generate a signal indicative of the parameter detected; and

a controller programmed to:

determine basic idle speed; and

determine a target idle speed by correcting the basic idle speed based on the signal when the automatic transmission is in a drive range in engine idling condition,

wherein the controller is programmed to determine a correction value so as to increase the target idle speed as the torque converter speed ratio changes from zero toward one.

24. (New) An idle speed control system for a vehicle including an internal combustion engine coupled to an automatic transmission which has a torque converter, the idle speed control system comprising:

a sensor operative to detect a parameter based on a torque converter speed ratio and generate a signal indicative of the parameter detected; and

a controller programmed to:

determine basic idle speed; and

determine a target idle speed by correcting the basic idle speed based on the signal when the automatic transmission is in a drive range in engine idling condition,

wherein the parameter is the torque converter speed ratio.

25. (New) An idle speed control system for a vehicle including an internal combustion engine coupled to an automatic transmission which has a torque converter, the idle speed control system comprising:

a sensor operative to detect a parameter based on a torque converter speed ratio and generate a signal indicative of the parameter detected; and

a controller programmed to:

determine basic idle speed; and

determine a target idle speed by correcting the basic idle speed based on the signal when the automatic transmission is in a drive range in engine idling condition,

wherein the parameter is a vehicle speed, and wherein the controller is programmed to determine a correction value so as to increase the target idle speed as the vehicle speed increases.

26. (New) A method for controlling an engine idle speed in an internal combustion engine of a vehicle, the internal combustion engine being coupled to an automatic transmission having a torque converter, the method comprising:

determining basic idle speed when the automatic transmission is in a drive range in engine idling condition;

detecting a parameter based on a torque converter speed ratio; and

determining a target idle speed by correcting the basic idle speed based on the parameter,

wherein the correcting operation comprises determining a correction value so as to increase the target idle speed as the torque converter speed ratio changes from zero toward one.

27. (New) A method for controlling an engine idle speed in an internal combustion engine of a vehicle, the internal combustion engine being coupled to an automatic transmission having a torque converter, the method comprising:

determining basic idle speed when the automatic transmission is in a drive range in engine idling condition;

detecting a parameter based on a torque converter speed ratio; and

determining a target idle speed by correcting the basic idle speed based on the parameter,

wherein the parameter is the torque converter speed ratio.

28. (New) A method for controlling an engine idle speed in an internal combustion engine of a vehicle, the internal combustion engine being coupled to an automatic transmission having a torque converter, the method comprising:

determining basic idle speed when the automatic transmission is in a drive range in engine idling condition;

detecting a parameter based on a torque converter speed ratio; and

determining a target idle speed by correcting the basic idle speed based on the parameter,

wherein the parameter is a vehicle speed, and wherein the correcting operation comprises determining a correction value so as to increase the target idle speed as the vehicle speed increases.